



MSG Rec'd PCT/PTO 08 MAY 2006 T

**PATENT APPLICATION**  
**Attorney Dkt. No.: 7512.175**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

PAYNE, et al.

Application No.: 10/541,057

Group Art Unit:

Filed: June 29, 2005

Examiner: Unknown

For: CONTROLLED ELECTROCHEMICAL DEPOSITION OF POLYSACCHARIDE  
FILMS AND HYDROGELS, AND MATERIALS FORMED THEREFROM

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Applicant(s) hereby submit this Information Disclosure Statement under 37 C.F.R. §§ 1.56 and 1.97(b) to bring to the attention of the Examiner the documents listed on the attached PTO Form 1449. It is being filed more than three months after the filing date but upon information and belief before the mailing date of a first office action. Thus, no fee is required.

Should a first Official Action have been issued on the same day as or before the filing date of this Information Disclosure Statement, please charge the petition fee to our Deposit Account No. 501324 and proceed to consider this Information Disclosure Statement.

This submission does not represent that a search has been made or that no better art exists and does not constitute an admission that each or all of the listed documents are material or constitute "prior art." If it should be determined that any of the listed documents

do not constitute "prior art" under United States law, Applicant reserves the right to present to the office the relevant facts and law regarding the appropriate status of such documents.

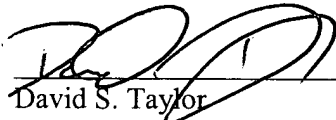
Applicant further reserves the right to take appropriate action to establish the patentability of the disclosed invention over the listed documents, should one or more of the documents be applied against the claims of the present application.

This Information Disclosure Statement is intended to be in full compliance with the rules, but should the Examiner find any part of its required content to have been omitted, prompt notice to that effect is earnestly solicited, along with additional time under Rule 97(f) to enable Applicant to comply fully.

Consideration of the foregoing plus return of a copy of the herewith Form PTO 1449 with the Examiner's initials in the left column per MPEP 609 are earnestly.

Respectfully submitted,

May 8, 2006  
Date

  
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Reg. No. 39,045

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# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

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of 3

**Complete if Known**

Application Number	10/541,057
Filing Date	June 29, 2005
First Named Inventor	Payne, et al.
Art Unit	
Examiner Name	
Attorney Docket Number	7512.175

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 2006/0078962	04-13-2006	Chen, et al.	
		US- 4,148,689	04-10-1979	Hino et al.	
		US- 5,015,576	05-14-1991	Nilsson et al.	
		US- 5,147,698	09-15-1992	Cole	
		US- 5,422,116	06-06-1995	Yen, et al.	
		US- 5,474,989	12-12-1995	Hashimoto et al.	
		US- 5,658,592	08-19-1997	Tanihara et al.	
		US- 5,830,459	11-03-1998	Cuero et al.	
		US- 6,044,800	04-04-2000	Kubo et al.	
		US- 6,245,901	06-12-2001	Von der Osten et al.	
		US- 6,562,363	05-13-2003	Mantelle et al.	
		US- 6,623,950	09-23-2003	Von der Osten et al.	
		US- 6,638,621	10-28-2003	Anderson et al.	
		US-			
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**FOREIGN PATENT DOCUMENTS**

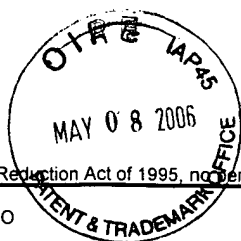
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		WO 00/11038	03-02-2000	Kumar		
		JP A 9 239 396				<input checked="" type="checkbox"/>
		WO 2004/018741	03-04-2004	Yi		
		JP-310041	11-24-1998	Ono et al.		<input checked="" type="checkbox"/>

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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Li-Qun Wu, et al., "Chitosan-Mediated and Spatially Selective Electrodeposition of Nanoscale Particles," Langmuir, Vol. 21, No. 8, pp. 3641-3646 (2005)	
		Li-Qun Wu, et al., "Spatially Selective Deposition of a Reactive Polysaccharide Chitosan Layer onto a Patterned Template," Langmuir, Vol. 19, No. 3, pp. 519-524 (2003)	
		Li-Qun Wu, et al., "Voltage-Dependent Assembly of the Polysaccharide Chitosan onto an Electrode Surface," Langmuir, Vol. 18, No. 22, pp. 8620-8625 (2002)	
		Tianhong Chen, et al., "Enzymatic Methods for in Situ Cell Entrapment and Cell Release," Biomacromolecules, Vol. 4, No. 6, pp. 1558-1563 (2003)	
		Mark J. Kkasantin, et al., "Integrated Fabrication of Polymeric Devices for Biological Applications," Invited Paper, Journal of Sensors and Materials, pp. 1-18 (9/2003)	
		Tianhong Chen, et al., "Nature-Inspired Creation of Protein Polysaccharide Conjugate and Its Subsequent ... Patterned Surface," Langmuir, Vol. 19, No. 22, pp. 9382-9386 (2003)	
		Rohan Fernandes, et al., "Eleetrochemical Induced Deposition of a Polysaccharide Hydrogel onto a Patterned Surface," Langmuir Vol. 19, No. 10, pp. 4058-62 (2003)	
		Hyunmin, Yi, et al., "A Robust Technique for Assembly of Nucleic Acid Hybridization ... Chitosan," Analytical Chemistry, Vol. 76, No. 2, pp. 365-372 (1/15/2004)	
		Rohan Fernandes, et al., "Thermo-Biolithography: A Technique for Patterning Nucleic Acids and Proteins," Langmuir, Vol. 20, No. 3, pp. 906-913 (2004)	
		Li-Qun Wu, et al., "Spatially Selective Asembly of a Reactive Polysaccharide Layer onto Patterned Surfaces," Power Point Presentation of 11/8/2002 (22 slides)	

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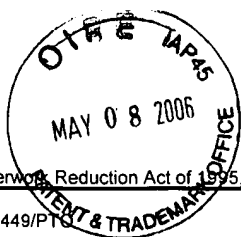
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		Sun et al., Tyrosinase-Containing Chitosan Gels: A Combined Catalysts and Sorbent for Selective Phenol Removal. Biotechnology and Bioengineering, Vol 51, pp. 79-86	
		Tatsumi, K. et al., Removal of Phenols from Wastewater by an Enzyme and Chitosan, Advances in Chitin Sciences, Vol. 2, pp. 864-869 (1997)	
		Muzzarelli, et al., Tyrosinase-Mediated Quinone Tanning of Chitinous Materials, Carbohydrate Polymers, Vol. 24, pp. 295-300 (1994)	
		Wada et al., "Removal of Phenols and Aromatic Amines from Wastewater by a Combination ... a Coagulant," Biotechnology and Bioengineering, Vol. 45, pp. 304-309 (1995)	
		Payne et al., "Tyrosinase Reaction/Chitosan Adsorption for Selectively Removing Phenols from Aqueous Mixtures," Biotechnology & Bioengineering, 40, No. 9 (1992)	

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